

Comparison of sequences from BSG1037 (SEQ ID NO.:3) and BSG1057 (SEQ ID NO.:4) in the 30kDa movement protein coding region (nts 4903-5709). Non-identities are indicated by \_ and identities are indicated by \*.

1037	ATGGCTCTAGTTGTTAAAGGAAAAGTGAATATCAATGAGTTATCGACCT
1057	ATGGCTCTAGTTGTTAAAGGAAAAGTGAATATCAATGAGTTATCGACCT
*****	
1037	GACAAAAATGGAGAAGATCTTACCGTCGATGTTACCCCTGTAAAGAGTG
1057	GACAAAAATGGAGAAGATCTTACCGTCGATGTTACCCCTGTAAAGAGTG
*****	
1037	TTATGTGTTCAAAGTTGATAAAATAATGGTCATGAGAATGAGTCATTG
1057	TTATGTGTTCAAAGTTGATAAAATAATGGTCATGAGAATGAGTCATTG
*****	
1037	TCAGGGGTGAACCTCTTAAAGGAGTTAAGCTTATTGATAGTGGATACTG
1057	TCAGGGGTGAACCTCTTAAAGGAGTTAAGCTTATTGATAGTGGATACTG
*****	
1037	CTGTTAGCCCGTTGGTCGTACGGCGAGTGGAACTTGCCTGACAATT
1057	CTGTTAGCCCGTTGGTCGTACGGCGAGTGGAACTTGCCTGACAATT
*****	
1037	GCAGAGGGAGGTGTGAGCGTGTCTGGGGACAAAAGGTGGAAAGAGCC
1057	GCAGAGGGAGGTGTGAGCGTGTCTGGGGACAAAAGGTGGAAAGAGCC
*****	
1037	GACGAGGCCACTCTCGGATCTTACTACACAGCAGTCGAAGAAAAGATT
1057	GACGAGGCCATTCTCGGATCTTACTACACAGCAGTCGAAGAAAAGATT
*****	
1037	TCAGTTCAAGGTGTTCCCAATTATGCTATAACCACCCAGGACCGCATGA
1057	TCAGTTCAAGGTGTTCCCAATTATGCTATAACCACCCAGGACCGCATGA
*****	
1037	AAAAACGTCGGCAAGTTTAGTTAATTAGAAAATGTGAAGATGTCAGCG
1057	AAAAACGTCGGCAAGTTTAGTTAATTAGAAAATGTGAAGATGTCAGCG
*****	
1037	GGTTTCTGTCGGCTTCTCTGGAGTTTGTGTCGGTGTGATTGTTATAG
1057	GGTTTCTGTCGGCTTCTCTGGAGTTTGTGTCGGTGTGATTGTTATAG
*****	
1037	AAAAATATATAAAATTAGGTTTGAGAGAGAAGATTACAAACGTGAGAGACCG
1057	AAAAATATATAAAATTAGGTTTGAGAGAGAAGATTACAAACGTGAGAGACCG
*****	
1037	GAGGGCCCATGGAACCTACAGAAGAAGTCGTGATGAGTCATGGAAAGAT
1057	GAGGGCCCATGGAACCTACAGAAGAAGTCGTGATGAGTCATGGAAAGAT
*****	
1037	GTCCCTATGTCGATCAGGCTTGCAAAAGTTCGATCTCGAACCGGAAAAAA
1057	GTCCCTATGTCGATCAGGCTTGCAAAAGTTCGATCTCGAACCGGAAAAAA
*****	

Figure 1a

1037	GAGTGAATGCCGAAAGGGAAAAATAGTAGTAGTGATCGGTAGTGC
1057	GAGTGAATGCCGAAAGGGAAAAATAGTAGTAGTGATCGGTAGTGC
	*****
1037	ACAAGAACTATAGAAATGTTAAGGGATTTGGAGGAATGAGTTTAAAAG
1057	ACAAGAACTATAGAAATGTTAAGGGATTTGGAGGAATGAGTTTAAAAG
	*****
1037	AATAATTAAATCGATGATGATTGGAGGCTACTGTCGCCGAATCGGATTC
1057	AATAATTAAATCGATGATGATTGGAGGCTACTGTCGCCGAATCGGATTC
	*****
1037	GTTTTAA
1057	GTTTTAA
	*****

Figure 1b

Comparison of sequences from BSG1037 (SEQ ID NO.:5) and BSG1057 (SEQ ID NO.:6) in the 30kDa movement protein (aal-268). Non-identities are indicated by \_ and identities are indicated by \*.

1037	MAVVVKGVNINEFIDLTKMEKILPSMFTPVKSVMCSKVDKIMVHENESL
1057	MAVVVKGVNINEFIDLTKMEKILPSMFTPVKSVMCSKVDKIMVHENESL
*****	
1037	SGVNLLKGVKLIDSGYVCLAGLVTGEWNLPDNCRGGSVCLVDKRMERA
1057	SGVNLLKGVKLIDSGYVCLAGLVTGEWNLPDNCRGGSVCLVDKRMERA
*****	
1037	DEATLGYYTAAAKKRQFQKVPNYAITTQDAMRNWQVLVNRNVKMSA
1057	DEAIGSYYTAAAKKRQFQKVPNYAITTQDAMRNWQVLVNRNVKMSA
*****	
1037	GFCPLSLEFVSVCIYRNNIKLGLREKITNVRDGGPMELTEEVVDEFMED
1057	GFCPLSLEFVSVCIYRNNIKLGLREKITNVRDGGPMELTEEVVDEFMED
*****	
1037	VPMSTIRLAKFRSRGKSDVRKGKNSSSDRSVPNKNYRNVKDFGGMSFKK
1057	VPMSTIRLAKFRSRGKSDVRKGKNSSSDRSVPNKNYRNVKDFGGMSFKK
*****	
1037	NNLIDDDSEATVAESEDF
1057	NNLIDDDSEATVAESEDF
*****	

Figure 2

BSG1037 -> Graphic Map

DNA sequence 10403 b.p. GTATTTTACAA ... CGACTCACTATA circular

126/183 reading frame begins at 69, 3417 is suppressable stop codon, and ends at 4919.30K

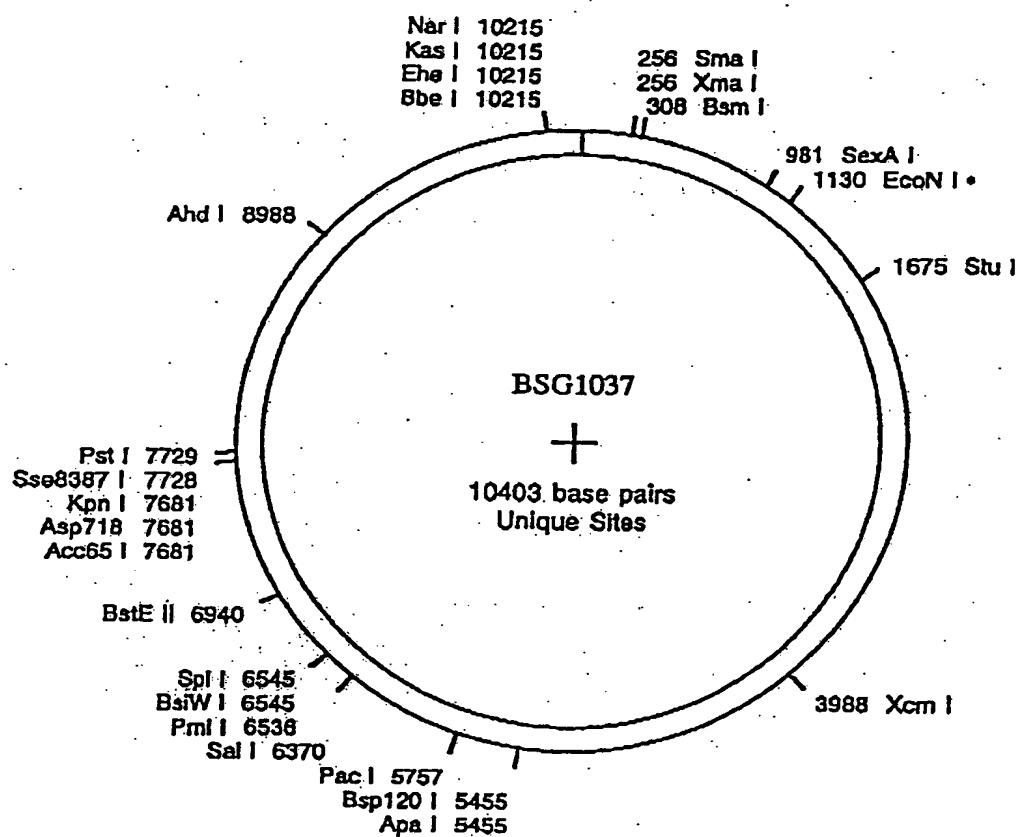


Figure 3

BSG1057 -> Graphic Map

DNA sequenc 10403 b.p. GTATTTTACAA ... CGACTCACTATA circular

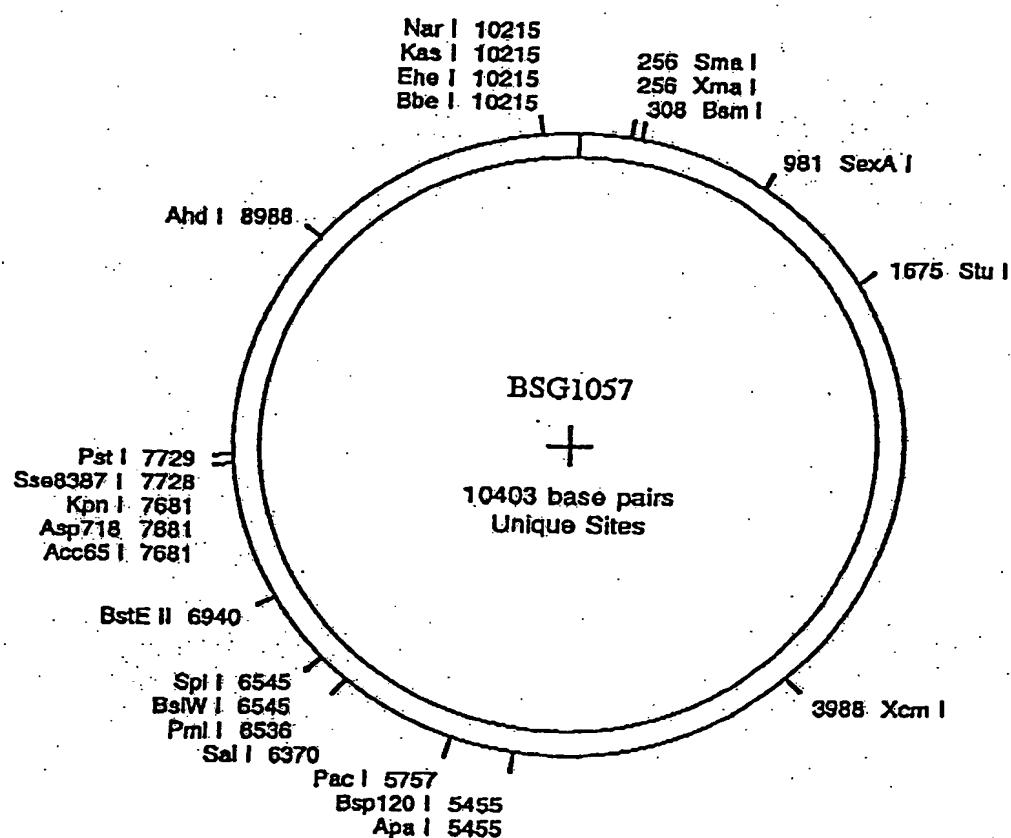


Figure 4

**Complete sequence of BSG 1037 (SEQ ID NO.: 1)**

GTATTTACAACAATTACCAACAACAACAACAAACAGACAACATTACAATTACTAT  
TTACAATTACAATGGCATACACA  
CAGACAGCTACCACATCAGCTTGCTGGACACTGTCCGAGGAAACAACCTCCTGGTC  
AATGATCTAGCAAAGCGTCGTCT  
TTACGACACAGCGGTTGAAGAGTTAACGCTCGTACCGCAGGCCAAGGTGAAC  
TTTCAAAAGTAATAAGCGAGGAGC  
AGACGCTTATTGCTACCCGGGCGTATCCAGAATTCAAATTACATTATAACACGC  
AAAATGCCGTGCATTGCGTTGCA  
GGTGGATTGCGATCTTAgAACTGGAATATCTGATGATGCAAATTCCCTACGGATCA  
TTGACTTATGACATAGGCAGGAA  
TTTGATCGCATCTGTTCAAGGGACGAGCATATGTACACTGCTGCATGCCAACCT  
GGACGTTGAGACATCATGCGGC  
ACGAAGGCCAGAAAGACAGTATTGAACTATACTTCTAGGCTAGAGAGAGGGGG  
AAAACAGTCCCCAACTCCAAAAG  
GAAGCATTTGACAGATAACGAGAAATTCTGAAGACGCTGTCTGTCACAATACTTC  
CAGACATGCGAACATCAGCCGAT  
GCAGCAATCAGGCAGAGTGTATGCCATTGCGCTACACAGCATATATGACATACCAG  
CCGATGAGTTGGGGCGGCACTCT  
TGAGGAAAAATGTCATACGTCTATGCCGCTTCCACTTCTCCAGAGAACCTGCTTC  
TTGAAGATTCATGCGTCAATTG  
GACGAAATCAACGCGTGTTCGCGCGATGGAGACAAGTTGACCTTCTTTGCA  
TCAGAGAGTACTCTAATTACTG  
TCATAGTTATTCTAATATTCTTAAGTATGTGTGCAAAACTTACTTCCGGCCTCTAAT  
AGAGAGGTTACATGAAGGAGT  
TTTAGTCACCAGAGTTAACCTGGTTTGTAAGTTCTAGAATAGATACTTTCT  
TTTGTACAAAGGTGTGGCCAT  
AAAAGTGTAGATAGTGAGCAGTTTACTGCAATGGAAGACGATGGCATTACAA  
AAAGACTCTGCAATGTCAACAG  
CGAGAGAATCCTCCTGAGGATTCACTCATCAGTCATTACTGGTTCCAAAATGAG  
GGATATGGTCATCGTACCAATT  
TCGACATTCTTGGAGACTAGTAAGAGGACGCGCAAGGAAGTCTTAGTGTCCAAGG  
ATTCGTGTTACAGTGTCTAAC  
CACATTGAAACATACCAAGCGAAAGCTCTACATACGCAAATGTTGTCCTCGTC  
GAATCGATTGATCGAGGGTAAT  
CATTAACGGTGTGACAGCGAGGTCCGAATGGGATGTGGACAAATCTTGTACAATC  
CTTGTCCATGACGTTTACCTGC  
ATACTAAGCTTGGCTCTAAAGGATGACTTACTGATTAGCAAGTTAGTCTCGGTT  
CGAAAACGGTGTGCCAGCATGTG  
TGGGATGAGATTGCTGGCGTTGGAACGCATTCCCTCCGTGAAAGAGAGGGCTC  
TTGAACAGGAAACTTATCAGAGT  
GGCAGGGACGCATTAGAGATCAGGGTGCCTGATCTATGTGACCTCCACGACA  
GATTAGTGAATGAGTACAAGGCCT  
CTGTGGACATGCCTGCGCTTGACATTAGGAAGAAGATGGAAGAACCGGAAGTGATG  
TACAATGCACATTCAAGAATTATCG

**Figure 5a**

GTGTTAAGGGAGTCTGACAAATTGATGTTGATGTTTCCAGATGTGCCAATCTT  
TGGAAAGTTGACCCAATGACGGC  
AGCGAAGGTTATAGTCGCGGTATGAGCAATGAGAGCGGTCTGACTCTCACATTGA  
ACGACCTACTGAGGCGAATGTTG  
CGCTAGCTTACAGGATCAAGAGAAGGCTTCAGAAGGTGCATTGGTAGTTACCTCAA  
GAGAAGTTGAAGAACCGTCCATG  
AAGGGTTCGATGCCAGAGGAGTTACAATTAGCTGGTCTGGAGATCATCCG  
GAATCGCCTATTCTAAGAACGA  
GGAGATAGAGTCTTAGAGCAGTTCATATGGCGACGGCAGATTGTTAATTGTA  
GCAGATGAGCTGATTGTACA  
CGGGTCCGATTAAGTCAGCAAATGAAAAACTTATCGATAGCCTGGTAGCATCAC  
TATCTGCTGCGGTGTCGAATCTC  
GTCAAGATCCTCAAAGATACTAGCTGCTATTGACCTGAAACCCGTCAAAAGTTGGA  
GTCTTGGATGTTGCATCTAGGAA  
GTGGTTAATCAAACCAACGGCCAAGAGTCATGCATGGGTGTTGAAACCCACG  
CGAGGAAGTATCATGTGGCGCTT  
TGGAAATATGATGAGCAGGGTGTGGTACATGCGATGATTGGAGAAGAGTAGCTGTT  
AGCTCTGAGTCTGTTATTCC  
GACATGGCGAAACTCAGAACTCTGCGCAGACTGCTCGAAACGGAGAACCGCATGT  
CAGTAGCGCAAAGGTTGTTCTGT  
GGACGGAGTTCCGGCTGTGGAAAAACCAAAGAAATTCTTCCAGGGTTAATTGGA  
TGAAGATCTAATTAGTACCTG  
GGAAGCAAGCCCGGAAATGATCAGAACGTCGAATTCTCAGGGATTATTGTG  
GCCACGAAGGACAACGTTAAAACC  
GTTGATTCTTCATGATGAATTGGAAAAGCACACCGCTGTCAGTTCAAGAGGTTA  
TTCATTGATGAAGGGTTGATGTT  
GCATACTGGTTGTTAATTCTGTGGCGATGTCATTGTGCGAAATTGATATGTT  
TACGGAGACACACAGCAGATT  
CATACATCAATAGAGTTCAGGATTCCGTACCCGCCATTGCAAATTGGAAG  
TTGACGAGGTGGAGACACCGCAGA  
ACTACTCTCCGGTGTCCAGCCGATGTCACACATTCTGAACAGGAGATATGAGGGC  
TTTGTATGAGCACTCTCGGT  
AAAAAGTCTGTTCGCAGGAGATGGCGGAGCCgCCGTGATCAATCCGATCTC  
AAAACCCCTGCATGGCAAAGATCT  
TGACTTTACCCAAATCGGATAAAAGAAGCTCTGCTTCAAGAGGGTATTGAGATGTC  
ACACTGTGCATGAAGTGCAGGC  
GAGACATACTGATGTTCACTAGTTAGGTTAACCCCTACACCGGTCTCCATCATTG  
CAGGAGACAGCCCACATGTTT  
GGTCGCATTGTCAGGCACACCTGTTGCTCAAGTACTACACTGTTGTTATGGATCC  
TTAGTTAGTATCATTAGAGATC  
TAGAGAAACTTAGCTCGTACTTGTAGATATGTATAAGGTCGATGCAGGAACACAAT  
AGCAATTACAGATTGACTCGGTG  
TTCAAAGGGTCCAATCTTGTGCAGGCCAAAGACTGGTGATATTCTGATATGC  
AGTTTACTATGATAAGTGTCT  
CCCAGGCAACAGCACCATGATGAATAATTGATGCTGTTACCATGAGGTTGACTGA  
CATTTCATTGAATGTCAAAGATT

Figure 5b

GCATATTGGATATGTCTAAGTCTGTTGCTGCCCTAAGGATCAAATCAAACCACTAA  
TACCTATGGTACGAACGGCGGCA  
GAAATGCCACGCCAGACTGGACTATTGGAAAATTAGTGGCGATGATTAAAAGAAA  
CTTTAACGCACCCGAGTTGTCTGG  
CATCATTGATATTGAAAATCTGCATCTTGGTTGTAGATAAGTTTTGATAGTTAT  
TTGCTTAAAGAAAAAGAAAAC  
CAAATAAAATGTTCTTGTTCAGTAGAGAGTCTCTCAATAGATGGTTAGAAAAGC  
AGGAACACAGGTAAACAATAGGCCAG  
CTCGCAGATTTGATTGTGGATTGCCAGCAGTTGATCAGTACAGACACATGATT  
AAAGCACAACCCAAACAAAAGTT  
GGACACTTCAATCCAAACGGAGTACCCGGCTTGCAGACGATTGTGTACCAATTCAA  
AAAGATCAATGCAATATTGGCC  
CGTTGTTAGTGAGCTTACTAGGCAATTACTGGACAGTGTGATTGAGCAGATT  
GTTTTCAACAAGAAAGACACCA  
GCGCAGATTGAGGATTCTCGGAGATCTCGACAGTCATGTGCCGATGGATGTCTTG  
GAGCTGGATATATCAAACAAACGA  
CAAATCTCAGAATGAATTCCACTGTGCAGTAGAATACGAGATCTGGCGAAGATTGG  
GTTTCAAGAGACTTCTGGGAGAAG  
TTTGGAAACAAGGGCATAGAAAGACCACCCCTCAAGGATTACCGCAGGTATAAAA  
ACTTGCATCTGGTATCAAAGAAAAG  
AGCGGGGACGTCACGACGTTATTGGAAACACTGTGATCATTGCTGCATGTTGGCC  
TCGATGCTCCGATGGAGAAAAT  
AATCAAAGGAGCCTTGCCTGACGATAGTCTGCTGACTTCAAAGGGTTGTGA  
GTTTCCGGATGTGCAACACTCCG  
CGAATCTTATGTGGAATTGAAAGCAAAACTGTTAAAAAACAGTATGGATACTTT  
GCGGAAGATATGTAATACATCAC  
GACAGAGGATGCATTGTATTACGATCCCCTAAAGTTGATCTGAAACTGGTGCT  
AAACACATCAAGGATTGGGAACA  
CTTGGAGGAGTCAGAAGGTCTTTGTGATGTTGCTGTTGTTGAACAAATTGTGCG  
TATTACACACAGTTGGACGACG  
CTGTATGGGAGGTCATAAGACCGCCCTCCAGGTTGTTATAAAAGTCTGG  
TGAAGTATTGCTGTATAAGT  
CTTTTAAAGTTGTTATAGATGGCTCTAGTTGTTAAAGGAAAAGTGAATATCAA  
TGAGTTATCGACCTGACAAAAA  
TGGAGAAGATCTTACCGTCGATGTTACCCCTGAAAGAGTGTATGTGTTCAAAG  
TTGATAAAATAATGGTTCATGAG  
AATGAGTCATTGTCAGGGGTGAACCTTCTAAAGGAGTTAAGCTTATTGATAGTGG  
TACGTCTGTTAGCCGGTTGGT  
CGTCACGGCGAGTGGAACTTGCCTGACAATTGCAGAGGAGGTGTGAGCGTGTGTC  
TGGTGGACAAAGGATGGAAAGAG  
CCGACGAGGCCACTCTGGATCTTACTACACAGCAGCTGCAAAGAAAAGATTCA  
TTCAAGGTCGTTCCCAATTATGCT  
ATAACCACCCAGGACGCGATGAAAAACGTCTGGCAAGTTAGTTAATATTAGAAAT  
GTGAAGATGTCAGCGGGTTCTG  
TCGCTTCTGGAGTTGTGTCGGTGTATTGTTATAGAAATAATATAAAAATTA  
GGTTGAGAGAGAAGATTACAA

Figure 5c

ACGTGAGAGACGGAGGGCCCATGGAACCTACAGAAGAAGTCGTTGATGAGTCATG  
GAAGATGTCCTATGTCGATCAGG  
CTTGCAGTTTCGATCTGAACCGGAAAAAAGAGTGTGATGTCGCAAAGGGAAAAA  
TAGTAGTAGTGTGATCGGTCACTGCC  
GAACAAGAACTATAGAAATGTTAAGGATTTGGAGGAATGAGTTAAAAAGAATA  
ATTTAATCGATGATGATTGCGAGG  
CTACTGTCGCCAATCGGATTGTTAAATAGATCTTACAGTATCACTACTCCATCT  
CAGTCGTGTTCTGTCACTAA  
TTAAATGGCTAGCAAAGGGAGAAGAACCTTCACTGGAGTTGTCCTAATTCTGTTGA  
ATTAGATGGTGTGATGTTAATGGC  
ACAAATTTCTGTCAGTGGAGAGGGTAAGGTGATGCTACATACGGAAAGCTTACCC  
TTAAATTTATTCGCACTACTGGA  
AAACTACCTGTTCCATGGCCAACACTTGTCACTACTTCTCTTATGGTGTCAATGCT  
TTTCCCCTTATCCGGATCATAT  
GAAACGGCATGACTTTCAAGAGTGCATGCCGAAGGTTATGTACAGGAACGCA  
CTATATCTTCAAAGATGACGGGA  
ACTACAAGACGCGTGTGAAGTCAGTTGAAGGTGATACCCTGTTAATCGTATCG  
AGTTAAAAGGTATTGATTTAAA  
GAAGATGGAAACATTCTCGGACACAAACTCGAGTACAACACTATAACTCACACAATGT  
ATACATCACGGCAGACAAACAAAA  
GAATGGAATCAAAGCTAACTTCAAAATTGCCACAACATTGAAGATGGATCCGTT  
AACTAGCAGACCATTATCAACAAA  
ATACTCCAATTGGCGATGGCCCTGTCCTTTACCAAGACAACCATTACCTGTCGACAC  
AATCTGCCCTTCGAAAGATCCC  
AACGAAAAGCGTGACCACATGGCCTTCTTGAGTTGTAAC TGCTGCTGGATTACA  
CATGGCATGGATGAGCTCTACAA  
ATAATGACACTCGAGGGTAGTCAAGATGCATAATAAACCGATTGTGTCGAC  
ATCACACGTGGTGCCTACGATAAC  
GCATAGTGTCTCCACTAAATCGAAGGGTTGTCTGGATCGCGCGGTC  
AAATGTATATGGTCATATACAT  
CCGCAGGCACGTAATAAGCGAGGGTTCGGGTCGAGGTGGCTGTGAAACTCGAA  
AAGGTTCCGGAAAACAAAAAGAG  
AGTGGTAGGTAATAGTGTAAATAATAAGAAAATAATAGTGGTAAGAAAGGTT  
TGAAAGTTGAGGAAATTGAGGATA  
ATGTAAGTGTGACGAGTCTATCGCGTCATCGAGTACGTTAATCAATATGCCTTA  
TACAATCAACTCTCCGAGCCAAT  
TTGTTTACTTAAGTCCGCTTATGCAGATCCTGTCAGCTGATCAATCTGTGTACAAA  
TGCATTGGGTAACCAGTTCAA  
ACGCAACAAGCTAGGACAACAGTCCAACAGCAATTGCGGATGCCTGGAAACCTGT  
GCCTAGTATGACAGTGGAGATTCC  
TGCATCGGATTCTATGTTAGATATAATTGACGCTTGTGATCCGTTGATCACGGC  
GTTATTAAATAGCTCGATACTA  
GAAATAGAATAATAGAGGTTGATAATCAACCCGACCGAATAACTACTGAAATCGTT  
AACGCGACTCAGAGGGTAGACGAT  
GCGACTGTAGCTATAAGGGCTCAATCAATAATTGGCTAATGAACTGGTTCGTGGA  
ACTGGCATGTTCAATCAAGCAAG

Figure 5d

CTTGAGACTGCTAGTGGACTTGTCTGGACCACAACTCCGGCTACTTAGCTATTGTTG  
TGAGATTCTAAAATAAGTC  
ACTGAAGACTTAAATTCAAGGGTGGCTGATACCAAAATCAGCAGTGGTGTTCGTCC  
ACTTAAATATAACGATTGTCATA  
TCTGGATCCAACAGTTAAACCATGTGATGGTGTATACTGTGGTATGGCGTAAAACAA  
CGGAAAAGTCGCTGAAGACTTAA  
AATTCAAGGGTGGCTGATACCAAAATCAGCAGTGGTGTTCGTCCACTAAAAATAAC  
GATTGTCATATCTGGATCCAACA  
GTTAAACCATGTGATGGTGTATACTGTGGTATGGCGTAAACAACGGAGAGGTTCGA  
ATCCTCCCCCTAACCGCGGgtagcg  
gcca

**Figure 5e**

**Complete Sequence of BSG 1057 (SEQ ID NO.: 2):**

GTATTTACAACAATTACCAACAACAACAAACAGACAACATTACAATT  
ACTATTTACAATTACAATGGCATACACA  
CAGACAGCTACCACATCAGCTTGGACACTGTCCGAGGAAACAACCTCCT  
TGGTCAATGATCTAGCAAAGCGTGTCT  
TTACGACACAGCGGTGAAGAGTTAACGCTCGTACCGCAGGCCAAGGTG  
AACTTTCAAAAGTAATAAGCGAGGAGC  
AGACGCTATTGCTACCCGGCGTATCCAGAATTCAAATTACATTATAAC  
ACGAAAATGCCGTGCATTGCTTGCA  
GGTGGATTGCGATCTTAGAACTGGAATATCTGATGATGCAAATTCCCTACGG  
ATCATTGACTTATGACATAGGCAGGAA  
TTTGACATCGCATCTGTTCAAGGGACGAGCATATGTACACTGCTGCATGCCA  
ACCTGGACGTTCGAGACATCATGCCG  
ACGAAGGCCAGAAAGACAGTATTGAACTATACCTTCTAGGCTAGAGAGAGG  
GGGGAAAACAGTCCCCAACTCCAAAAG  
GAAGCATTGACAGATACGCAGAAATTCCCTGAAGACGCTGTCTGACAATA  
CTTCCAGACATGCGAACATCAGCCGAT  
GCAGCAATCAGGCAGAGTGTATGCCATTGCGCTACACAGCATATATGACATA  
CCAGCCGATGAGTTGGGGCGGCACTCT  
TGAGGAAAATGTCCATACGTGCTATGCCGCTTCCACTTCTCCGAGAACCTG  
CTTCTGAAGATTGCGTCAATTG  
GACGAAATCAACGCGTTTTCGCGCGATGGAGACAAGTTGACCTTTCTT  
TGCATCAGAGAGTACTCTTAATTACTG  
TCATAGTTATTCTAATATTCTAAGTATGTGTGCAAAACTTACTTCCGGCCTC  
TAATAGAGAGGTTACATGAAGGAGT  
TTTAGTCACCAGAGTTAATACCTGGTTGTAAGTTCTAGAATAGATACTT  
TTCTTGTACAAAGGTGTGGCCCAT  
AAAAGTAGATAGTGAGCAGTTTATACTGCAATGGAAGACGCATGGCATT  
ACAAAAAGACTCTGCAATGTCAACAG  
CGAGAGAATCCTCCTGGGATTGATCATCATCAGTCAATTACTGGTTCCAAAA  
TGAGGGATATGGTCATCGTACCGATTAT  
TCGACATTCTTGGAGACTAGTAAGAGGACGCGCAAGGAAGTCTAGTGT  
CAAGGATTTCGTGTTCACAGTGCTTAAC  
CACATTGAAACATACCAAGCGAAAGCTTACATACGCAAATGTTGTCCTT  
CGTCAATCGATTGATCGAGGGTAAT  
CATTAACGGTGTGACAGCGAGGTCCGAATGGATGTGGACAAATCTTGT  
CAATCCTTGTCCATGACGTTTACCTGC  
ATACTAAGCTTGCCTCTAAAGGATGACTTACTGATTAGCAAGTTAGTCTC  
GGTCGAAAACGGTGTGCCAGCATGTG  
TGGGATGAGATTCGCTGGCGTTGGGAACGCATTCCCTCCGTGAAAGAGA  
GGCTCTGAACAGGAAACTATCAGAGT  
GGCAGGCGACGCATTAGAGATCAGGGTGCCTGATCTATGTGACCTTCCAC  
GACAGATTAGTGAATGAGTACAAGGCCT  
CTGTGGACATGCCTGCGCTTGACATTAGGAAGAAGATGGAAGAACGGAAAGT  
GATGTACAATGCACTTCAAGAATTATCG

**Figure 6a**

GTGTTAAGGGAGTCTGACAAATTGATGTTGATGTTTTCCCAGATGTGCCA  
ATCTTGGAAAGTTGACCAATGACGGC  
AGCGAAGGTTATAGTCGCGGTATGAGCAATGAGAGCGGTCTGACTCTCACA  
TTGAAACGACCTACTGAGGCGAATGTTG  
CGCTAGCTTACAGGATCAAGAGAAGGCTTCAGAAGGTGCATTGGTAGTTAC  
CTCAAGAGAAGTTGAAGAACCGTCATG  
AAGGGTTCGATGGCCAGAGGAGAGTTACAATTAGCTGGTCTGGAGATC  
ATCCGGAATCGTCCTATTCTAAGAACGA  
GGAGATAGAGTCTTAGAGCAGTTCATATGGCGACGGCAGATTGTTAAC  
GTAAGCAGATGAGCTCGATTGTTACA  
CGGGTCCGATTAAGTTCAGCAAATGAAAAACTTATCGATAGCCTGGTAGC  
ATCACTATCTGCTGCGGTGTCGAATCTC  
GTCAAGATCCTCAAAGATACTAGCTGCTATTGACCTTGAAACCCGTAAAAGT  
TTGGAGTCTGGATGTTGCATCTAGGAA  
GTGGTTAATCAAACCAACGGCCAAGAGTCATGCATGGGGTGTGAAACC  
CACCGCAGGGAGTATCATGTGGCGTT  
TGGAAATATGATGAGCAGGGTGTGGTGCATGCGATGATTGGAGAAGAGTAGC  
TGTTAGCTCTGAGTCTGTTGTTATTCC  
GACATGGCGAAACTCAGAACTCTGCGCAGACTGCTCGAAACGGAGAACCGC  
ATGTCAGTAGCGCAAAGGTTGTTCTTGT  
GGACGGAGTCCGGCTGTGGAAAAACCAAAGAAATTCTTCCAGGGTTAAT  
TTTGATGAAGATCTAATTAGTACCTG  
GGAAGCAAGCCCGCGAAATGATCAGAACAGCTGCGAATTCTCAGGGATTAT  
TGTGCCACGAAGGACAACGTTAAAACC  
GTTGATTCTTCATGATGAATTGGAAAAGCACACGCTGTCAGTTCAAGAG  
GTTATTGATGAAGGGTTGATGTT  
GCATACTGGTTGTGTTAATTCTTGTGGCGATGTCATTGTGCGAAATTGCAT  
ATGTTACGGAGACACACAGCAGATT  
CATACATCAATAGAGTTCAAGGATTCCGTACCCGCCATTGCAAATTG  
GAAGTTGACGAGGTGGAGACACGCAGA  
ACTACTCTCCGTTGTCAGCCGATGTCACACATTATCTGAACAGGAGATATGA  
GGGCTTGTGATGAGCACTTCTCGT  
AAAAAAGTCTGTTCGCAGGAGATGGTCGGCGAGCCGCCGTGATCAATCCG  
ATCTCAAAACCCATTGCAAGATCC  
TGACTTTACCAATCGATAAAGAACGCTCTGCTTCAAGAGGGTATTGAGAT  
GTTCACACTGTGCAAGTGCAAGGC  
GAGACATACTGATGTTCACTAGTTAGGTTAACCCCTACACCGGTCTCCAT  
CATTGCAGGAGACAGCCCACATGTTT  
GGTCGCATTGTCAAGGCACACCTGTCGCTCAAGTACTACACTGTTGTTATGG  
ATCCTTGTAGTATCATTAGAGATC  
TAGAGAAAATTAGCTGTAATTGTTAGATATGTATAAGGTCGATGCAGGAAC  
ACAATAGCAATTACAGATTGACTCGGTG  
TTCAAAGGTTCCAATTGTTGCAAGGCCAAAGACTGGTGATATTCTGA  
TATGCAGTTTACTATGATAAGTGTCT  
CCCAGGCAACAGCACCATGATGAATAATTGATGCTGTTACCATGAGGTTG  
ACTGACATTGAAATGTCAAAGATT

Figure 6b

GCATATTGGATATGCTAAGTCTGCTGCACCTAACCAAGGATCAAATCAAACCA  
CTAATACCTATGGTACGAACGGCGCA  
GAAATGCCACGCCAGACTGGACTATTGGAAAATTAGTGGCGATGATTAAAAA  
GAAACTTAACGCACCCGAGTTGCTGG  
CATCATTGATATTGAAAATACTGCATCTTGGTTGTAGATAAGTTTTGATA  
GTTATTGCTTAAAGAAAAAAGAAAAC  
CAAATAAAAATGTTCTTGTTCAGTAGAGAGTCTCTCAATAGATGGTTAGAA  
AAGCAGGAACAGGTAAACAATAGGCCAG  
CTCGCAGATTGATTGTTGCCAGCAGTTGATCAGTACAGACACAT  
GATTAAAGCACAACCCAAACAAAAGTT  
GGACACTTCAATCCAAACGGAGTACCCGGCTTGCAGACGATTGTGTACCAT  
TCAAAAAAGATCAATGCAATATTGGCC  
CGTTGTTAGTGGACTTACTAGGCAATTACTGGACAGTGGTGTGAGCAGA  
TTTTGTTTCACAAGAAAGACACCA  
GCGCAGATTGAGGATTCTGGAGATCTGACAGTCATGTGCCGATGGATG  
TCTTGGAGCTGGATATATCAAAATACGA  
CAAATCTCAGAATGAATTCCACTGTGCAGTAGAATACGAGATCTGGCGAAGA  
TTGGGTTTCAAGACTTCTTGGGAGAAG  
TTTGGAAACAAGGGCATAGAAAGACCACCCCTCAAGGATTACCGCAGGTAT  
AAAAACTTGCATCTGGTATCAAAGAAAAG  
AGCAGGGGACGTCACGACGTTCATGGAAACACTGTGATCATTGCTGCATGTT  
GGCCTCGATGCTTCCGATGGAGAAAAT  
AATCAAAGGAGCCTTGGGTGACGATAGTCTGCTGTACTTCAAAGGGTT  
GTGAGTTCCGGATGTCAACACTCCG  
CGAATCTTATGTGGAATTGAAAGCAAAACTGTTAAAAAACAGTATGGATA  
CTTTGCGGAAGATATGTAATACATCAC  
GACAGAGGATGCATTGTATTACGATCCCCCTAAAGTTGATCTCGAAACTTG  
GTGCTAAACACATCAAGGATTGGGAACA  
CTTGGAGGAGTTCAAGGGCTCTTGTGATGTTGCTGTTGTTGAACAAATT  
GTGCGTATTACACACAGTGGACGACG  
CTGTATGGGAGGTTCATAGACGCCCTCCAGGTTGTTGTTATAAAAGT  
CTGGTGAAGTATTGCTGTATAAGTT  
CTTTAGAAGTTGTTATAGATGGCTCTAGTTGTTAAAGGAAAAGTGAATA  
TCAATGAGTTATCGACCTGACAAAAAA  
TGGAGAAGATCTTACCGTCATGTTACCCCTGAAAGAGTGTATGTTCC  
AAAGTTGATAAAATAATGGTTCATGAG  
AATGAGTCATTGTCAGGGGTGAACCTTCTAAAGGAGTTAACGTTATTGATAG  
TGGATACGTCGTGTTAGCCGGTTGGT  
CGTCACGGGCGAGTGGAACTTGCCTGACAATTGCAGAGGAGGTGTGAGCGTG  
TGTCTGGTGGACAAAAGGATGGAAAGAG  
CCGACGAGGCCATTCTCGGATCTTACTACACAGCAGCTGCAAAGAAAAGATT  
TCAGTTCAAGGTCGTCCATTGCT  
ATAACCACCCAGGACGCGATGAGAAACGTTGCAAGTTAGTTAATATTA  
GAAATGTGAAGATGTCAGCGGGTTCTG  
TCCGCTTCTGGAGTTGTCGGTGTATTGTTATAGAAATAATATAA  
AATTAGGTTGAGAGAGAAGATTACAA

Figure 6c

ACGTGAGAGACGGAGGGCCATGGAACCTACAGAAGAAGTCGTTGATGAGTT  
CATGGAAGATGTCCTATGTCGATCAGG  
CTTGC<sub>AA</sub>AGTTCGATCTGAA<sub>CC</sub>GGAAAAAGAGTGATGTCGCAAAGGGAA  
AAAATAGTAGTAGTGATCGGTAGTCAGGCC  
GAACAAGAACTATAGAAATGTTAAGGATTGGAGGAATGAGTTAAAAAG  
AATAATTAAATCGATGATGATTGGAGG  
CTACTGTCGCCGAATCGGATCGTTAAATAGATCTTACAGTATCACTACTC  
CATCTCAGTCGTGTTCTGTCAttaa  
ttaaATGGCTAGCAAAGGAGAAGAACCTTCACTGGAGTTGTC<sub>CC</sub>AAATTCTGTT  
GAATTAGATGGTGATGTTAATGGGC  
ACAAATTTCTGTCAGTGGAGAGGGTGAAGGTGATGCTACATACGGAAAGCT  
TACACTAAATTATTGCACACTGGA  
AAACTACCTGTTCCATGGCCAACACTGTCACTACTTCTTATGGTGTCA  
ATGCTTTCCC<sub>GT</sub>TATCCGGATCATAT  
GAAACGGCATGACTTTCAAGAGTGCCATGCCGAAGGTATGTACAGGAA  
CGCACTATATCTTCAAAGATGACGGGA  
ACTACAAGACGCGTGAAGTCAAGTTGAAGGTGATACCCTGTTAATCG  
TATCGAGTTAAAAGGTATTGATTAAA  
GAAGATGGAAACATTCTCGGACACAAACTCGAGTACAACACTATAACTCACACA  
ATGTATACATCACGGCAGACAAACAAAA  
GAATGGAATCAAAGCTAAC<sub>CT</sub>CAAATTGCCACAAACATTGAAGATGGATCC  
GTTCAACTAGCAGACCATTATCAACAAA  
ATACTCCAATTGGCGATGCCCTGTCCTTTACCAAGACAACCATTACCTGTCG  
ACACAATCTGCCCTTCGAAAGATCCC  
AACGAAAAGCGTGACCACATGGCCTTGTGAGTTGTA<sub>CT</sub>GCTGCTGGAT  
TACACATGGCATGGATGAGCTACAA  
ATAATGACACTCGAGGGTAGTCAAGATGCATAATAAACGGATTGTGTC  
CGTAATCACACGTGGTGC<sub>GT</sub>TACGATAAC  
GCATAGTGT<sub>TTT</sub>CCCTCCACTAAATCGAAGGGTGTCTGGATCGCGCG  
GGTCAAATGTATATGGTCATATACAT  
CCGCAGGCACGTAATAAAAGCGAGGGTTCGGTCGAGGTGGCTGTGAAACT  
CGAAAAGGTTCCGGAAAACAAAAAAGAG  
AGTGGTAGGTAATAGTGTAAATAATAAGAAAATAATAGTGGTAAGAAA  
GGTTGAAAGGTGAGGAATTGAGGATA  
ATGTAAGTGATGACGGAGTCTATCGCGTCATCGAGTACGTTTAATCAATATGC  
CTTATACAATCAACTCTCGAGCCAAT  
TTGTTACTTAAGTCCGCTATGCAGATCCTGTCAGCTGATCAATCTGTGT  
ACAAATGCATTGGGTAA<sub>CC</sub>AGTTC<sub>AA</sub>  
ACGCAACAAAGCTAGGACAACAGTCCAACAGCAATTGCGGATGCC<sub>CT</sub>GGAAAC  
CTGTGCCTAGTATGACAGTGAGATTCC  
TGCATCGGATTCTATGTGTATAGATATAATTGACGCTGATCCGTTGATCA  
CGCGTTATTAAATAGCTTCGATACTA  
GAAATAGAATAATAGAGGTTGATAATCAACCCGCACCGAATACTACTGAAAT  
CGTTAACGCGACTCAGAGGGTAGACGAT  
GCGACTGTAGCTATAAGGGCTCAATCAATAATTGGCTAATGAACtGGTCG  
TGGAACTGGCaTGTCAATCAAGCAAG

Figure 6d

CTTGAGACTGCTAGTGACTTGTCTGGACCACAACTCCGGCTACTTAGctattgtt  
gtgagattcctaaaataaagtc  
actgaagactaaaattcagggtggctgataccaaaatcagcagtggttgtcgccacttaaatataacgattgtcata  
tctggatccaacagttaaaccatgtgatgggttatactgtgtatggcgtaaaacaacggaaaagtgcgtgaagacttaa  
aattcagggtggctgataccaaaatcagcagtggttgtcgccacttaaaaataacgattgtcataatctggatccaaca  
gttaaaccatgtgatgggttatactgtgtatggcgtaaaacaacggagagggtcgaatcctccctaaccgcgggtagc  
ggccca

**Figure 6e**

Schematic map of location of mutations in BSG 1057.  
30K = movement protein; GFP = green fluorescent protein;  
CP = coat protein. Nucleotide positions of BSG 1057 mutations  
are noted.

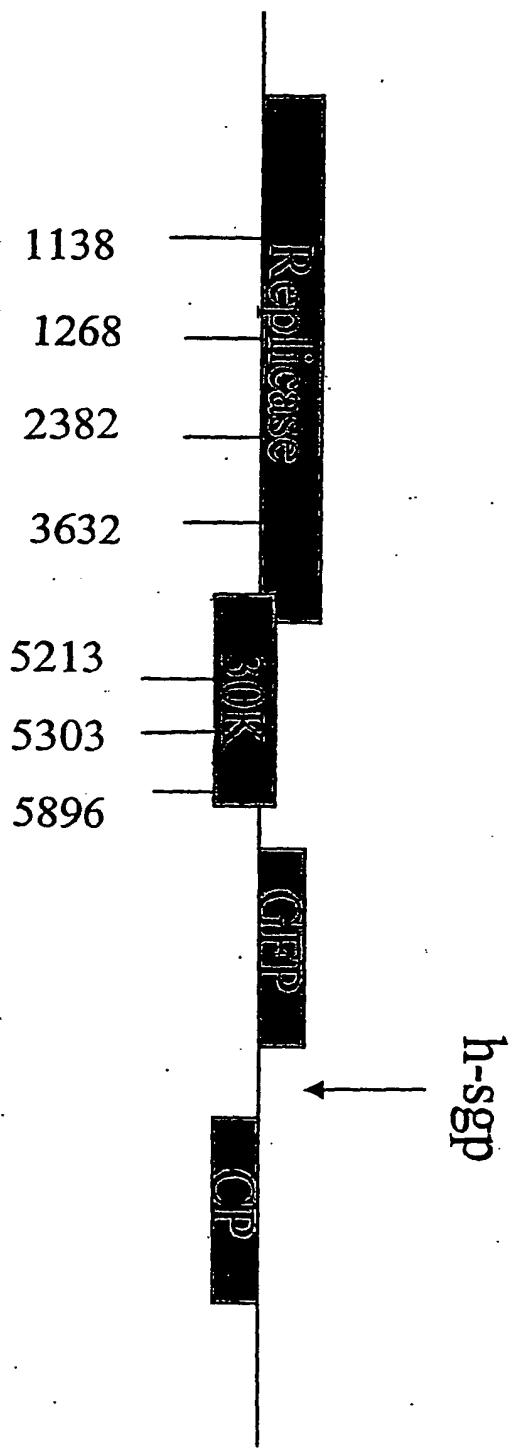


Figure 7



**Figure 8**